What is claimed is:

1. A method of controlling the flow of data units across a bus bridge, comprising:

   a) detecting operational states of the bridge;

   b) disabling load access to the bridge when a first predefined operational state exists at the bridge; and

   c) enabling load access to the bridge when a second predefined operational state exists at the bridge.

2. A method as claimed in claim 1 wherein detecting operational states of the bridge includes detecting as said first predefined operational state the presence of a predefined number of data units stored in the bridge and detecting as said second predefined operational state fewer than said predefined number of data units stored in the bridge.

3. A method as claimed in claim 1 wherein detecting operational states includes monitoring activity on each bus connected to the bridge.

4. A method as claimed in claim 3 wherein monitoring includes monitoring signals on each bus connected to the bridge.

5. A method as claimed in claim 4 wherein monitoring includes monitoring DEVSEL#, C/BE#, TRDY#, STOP#, FRAME# and GNT# signals on a primary Compact PCI bus and monitoring C/BE#, FRAME# and GNT# signals on a secondary Compact PCI bus.

6. A method as claimed in claim 2 further including incrementing a counter when a data unit is loaded to the bridge.

7. A method as claimed in claim 6 further including decrementing said counter when a data unit is unloaded from the bridge.

8. A method as claimed in claim 7 wherein incrementing and decrementing includes incrementing and decrementing respectively in response to an ATM cell as a data unit.

9. A method as claimed in claim 7 wherein incrementing and decrementing includes incrementing and decrementing respectively in response to a data word as a data unit.

10. A method as claimed in claim 7 wherein disabling includes disabling the load access to the bridge by components on at least one bus when said counter reaches said predefined number.

11. A method as claimed in claim 1 wherein disabling includes disabling access to the bridge until a data unit is unloaded from the bridge.

12. A method as claimed in claim 1 wherein disabling includes signalling at least one device on a bus in communication with the bus bridge to indicate that load access to the bridge will not be granted.

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13. An apparatus for controlling the flow of data units across a bus bridge, comprising:

a) means for monitoring operational states of the bridge; and

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b) means for controlling equipment connected to at least one bus for disabling load access to the bridge by said equipment when said means for monitoring detects a first predefined operational state at the bridge and for enabling load access to the bridge when said means for monitoring detects a second predefined operational state at the bridge.

14. An apparatus for controlling the flow of data units across a bus bridge, comprising:

a) a bridge monitor for monitoring operational states of the bridge; and

b) a control circuit for disabling load access to the bridge when said bridge monitor detects a first predefined operational state at the bridge and for enabling load access to the bridge when said bridge monitor detects a second predefined operational state at the bridge.

15. An apparatus as claimed in claim **14** wherein said bridge monitor defines said first predefined operational state as when a predefined number of data units is stored in the bridge and wherein said bridge monitor defines said second predefined operational state as when fewer than said predefined number of data units are stored in the bridge.

16. An apparatus as claimed in claim **14** wherein said bridge monitor defines said first predefined operational state as when a predefined number of data units is stored in the bridge and wherein said bridge monitor includes signal sensors for sensing at least some signals on each bus in communication with the bridge.

Sub a3 17. An apparatus as claimed in claim **14** wherein said bridge monitor is operable to monitor DEVSEL#, C/BE#, TRDY#, STOP#, FRAME# and GNT# signals on a primary Compact PCI bus in communication with the bridge and C/BE#, FRAME# and GNT# signals on a secondary Compact PCI bus in communication with the bridge.

18. An apparatus as claimed in claim **15** further including a counter incremented by the bridge monitor when a data unit is loaded to the bridge and decremented by the bridge monitor when a data unit is unloaded from the bridge.

19. An apparatus as claimed in claim **18** wherein said counter includes an ATM cell counter incremented and decremented in response to an ATM cell being loaded to the bridge or unloaded from the bridge respectively.

20. An apparatus as claimed in claim **18** wherein said counter includes a data unit counter incremented and decremented in response to a data unit being loaded to the bridge or unloaded from the bridge respectively.

21. An apparatus as claimed in claim **18** wherein said control circuit is operable to disable load access to the bridge when said counter reaches said predefined number.

22. An apparatus as claimed in claim **14** wherein said control circuit is operable to disable load access until a data unit is unloaded from the bridge.

23. An apparatus as claimed in claim **14** wherein said control circuit is operable to produce a signal to at least one device connected to the bridge to indicate that load access to the bridge is denied.

24. An inter-bus communication system comprising the apparatus as claimed in claim **14** and further including a bridge in communication with at least two data buses for transferring data between said at least two data buses.

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25. A multiple bus system comprising the inter-bus communication system as claimed in claim **24** and further including at least two data buses in communication with said inter-bus communication system.

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